

TANNOY®

SENSYS

OWNER'S MANUAL

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WARRANTY

This equipment has been produced and tested with care and precision. All Tannoy speaker systems are built to give first class service and carry a 5-year warranty. Active subwoofers carry a 1-year warranty.

If the equipment proves to be defective within this period for any reason other than accident, misuse, unauthorised modification or fair wear and tear, Tannoy will repair any such defect or, at our option, replace it without charge for parts, labour or return carriage. This warranty is given in addition to the customer's statutory rights.

If you suspect a problem with your loudspeakers please contact your local Tannoy dealer who will be able to advise on appropriate action.

INTRODUCTION

Thank you for selecting Tannoy loudspeakers developed in the UK by our dedicated team of design engineers. They are the choice of discriminating music lovers the world over. Musical excellence is designed into our loudspeakers from the start. Careful selection of the very best components combined with strict quality control procedures in the production process ensures this level of excellence is maintained.

To gain maximum performance from your loudspeakers, please take time to read this owner's manual in full before installation. Once you have set up your new loudspeakers please complete and return the registration document - this does not limit your legal rights.

Loudspeakers are electromechanical devices that 'run-in' through use; performance will therefore improve after an initial period of 24hrs use. Once they have been further run-in over a longer period, there will be clear enhancement of the stereo imaging, mid-band quality and bass performance characteristics.

We are confident that you will continue to enjoy your new Tannoy Sensys loudspeakers for many years to come.

TANNOY WIDEBAND™ TECHNOLOGY

Tannoy has incorporated its own WideBand™ technology into the design of all Sensys loudspeakers. Not only does this exceptional in-house technology resolve fine detail of high frequency information but it also effectively enhances the listening experience throughout the whole frequency rangie. The WideBand™ high frequency system creates an increased immediacy, airiness and impact making music sound more natural and true to life.

Music contains transient information and rich harmonics beyond the range of human hearing for pure tones. Even bass notes have leading edge transients reaching 30kHz. Operating between the roll-off point of the exclusive Tannoy mid-bass driver unit and 51kHz, the Tannoy Sensys WideBand™ high frequency unit will accurately reproduce the leading edge of individual notes allowing the listener to experience the entire bandwidth information of instruments.

In addition, the extension of the frequency response, by fully two octaves, corrects time and phase response within the bandwidth of normal human hearing. Taking these acoustical phase anomalies beyond the audible range adds realism to the soundstage through improvements in imaging and the placement of instruments.

TANNOY DRIVER TECHNOLOGY

The Sensys range utilises two different approaches to the driver array, Discrete and Dual Concentric™.

DISCRETE

This main driver, built around an immensely strong cast chassis, is used in the entry-level models in the range. Its rigid construction controls the energy created by its long throw driver with consummate ease, a crucial factor in creating a drive unit capable not only of high power delivery and tremendous bass output, but also of great subtlety and finesse.

The clean and open midrange performance is further enhanced through smooth transition to the extended bandwidth performance of the exclusive Tannoy WideBand™ high frequency unit.

DUAL CONCENTRIC™

Tannoy Dual Concentric™ drivers have been incorporated into the top of the range Sensys models. Intensive research and development has produced an all-new version of this proven technology that builds upon the legendary performance of this exclusive Tannoy driver design.

The time coherent, point source and constant directivity nature of the dispersion characteristics inherent in the Dual makes it an accepted industry standard in studio monitoring. By exceeding the rigorous demands of the recording and mastering environment Tannoy can ensure that playback performance in the home, whether in two channel stereo or multi channel home cinema mode, is strictly controlled to accurately reflect the sound engineers artistry. In nature all sounds emanate from a single point in space. The high frequency unit of the Dual, centrally mounted in the throat of the main mid/bass driver, is so positioned as to acoustically replicate this single point source; delivering an incredibly natural sound with an incredibly wide imaging 'sweet spot' that creates an expansive soundstage with remarkably focussed placement of vocals and instrumentation.

This class leading performance is further enhanced by the inclusion of a pod mounted Tannoy SuperTweeter™ to extend the frequency bandwidth to over 50kHz. Greater precision, tighter imaging and increased presence are assured throughout the entire audible frequency band; even with normal Red Book Standard 20kHz limited CD software.

With such airy and spacious reproduction Sensys engages the senses in a way perhaps only previously experienced at a live performance.

AMPLIFIER CHOICE

Consult the enclosed product specification sheet as this clearly shows the acceptable power range for amplifier matching to your speakers. The high peak power handling of Tannoy loudspeakers permits responsible use with more powerful amplifiers - please read the Warranty.

As with all loudspeaker systems, the power handling is a function of voice coil thermal capacity. Care should be taken to avoid overdriving any amplifier, as this will cause output overload resulting in 'clipping' or distortion within the output signal. This, if done for any extended period, will cause damage to the speakers.

Generally an amplifier of higher power that is running hard, but free of distortion, will do less damage to the loudspeaker than a lower power amplifier continually clipping. Remember also that a high powered amplifier running at less than 90% of output power generally sounds a great deal better than a lower powered example struggling to achieve 100%. An amplifier with insufficient drive capability will not allow the full performance of the loudspeakers to be realised.

CABLE CHOICE

Always use the best quality of cable available within your budget. High quality audio signals passing from the amplifier to the loudspeaker are unusual in their demands on the cable. Wide dynamic range and frequency bandwidth information has to coexist with the ability to transmit peak currents of at least 10amps, without incurring any loss or signal impairment. This explains why the sound quality of the information reproduced by the loudspeakers is so dependant on the physical properties of the cables connecting them to the amplifier.

We would recommend that you always keep the cable runs the same length for each speaker. Remember, cable construction can affect the sound quality so be prepared to experiment to find a cable that suits your ear and audio system.

TERMINAL PANEL DESIGNS

In the discrete models there is a robust bi-wiring terminal panel designed to take substantial high quality loudspeaker cable. **(See fig. 2)**

An exclusive five way terminal panel has been designed for the Sensys Dual Concentric™ models to optimise performance further by take advantage of the driver earthing facility. Use a shielded or screened loudspeaker cable; connecting the screening termination to the earth or 'ground' (green) terminal on the loudspeaker and to the ground or earth connection on the amplifier. Alternatively if you are not using a screened loudspeaker cable but wish to utilise the earthing facility, run a single cable between the earth or 'ground' (green) terminal on the loudspeaker to the earth (ground) connection on the amplifier. **(See fig. 6)**

UNPACKING

To unpack the loudspeakers from their boxes remove tape from the top then fold the flaps right back before inverting the carton and contents. Lift the carton clear of the contents then remove all inner packaging.

It is strongly recommended that you store all the packaging to allow protected transportation in future. **(See fig. 1)**

FLOOR STANDING MODELS

Sensys floor-standing models perform best with carpet piercing spikes fitted. These are supplied, along with lock nuts, and should be inserted into the threaded holes in the base of the metal feet. Level the speaker and then tighten the lock nuts firmly but without using undue force. Spike locating cups are provided in the accessory pack and these may be used to protect sensitive floor surfaces.

WARNING: ENSURE THAT THE SPIKES ARE LEVELLED AND THAT THE LOCK NUTS ARE TIGHTENED FIRMLY. THE SPIKES SHOULD BE PUSHED THROUGH THE CARPET TO LOCATE INTO THE FLOORING SURFACE BY APPLYING PRESSURE TO THE TOP OF THE CABINET. IF USING ON A SENSITIVE FLOOR SURFACE PLACE THE PROTECTIVE CUPS UNDER THE LEVELLED SPIKES. FAILURE TO DO SO COULD RENDER THE SPEAKER UNSTEADY AND RESULT IN DAMAGE OR INJURY SHOULD IT BE KNOCKED OVER.

STAND MOUNTING MODELS

Stand mounting or bookshelf speakers should be located securely on stands or a shelf in an appropriate position to place the WideBand™ high frequency unit roughly at ear height when seated in the chosen listening position. Positioning recommendations for stand-mounted speakers can be found under the section entitled Positioning and fine-tuning.

WALL MOUNTED REAR CHANNEL SPEAKERS

The Sensys R and Sensys DC1 have been designed to act as rear speakers in a multi channel system configured for home cinema applications. Both models are provided with threaded inserts in their rear panels to accommodate the fixing hardware for an Omni-Mount type speaker wall bracket. This widely available design of bracket allows the speaker to be angled to provide the best acoustic performance from the rear soundstage.
(See fig. 13)

WARNING: IT IS ESSENTIAL TO SELECT THE CORRECT TYPE OF SCREWS AND FIXINGS TO SUIT THE CONSTRUCTION MATERIAL OF THE WALL ONTO WHICH THE SPEAKER IS TO BE MOUNTED. ENSURE THAT THE OMNI-MOUNT HANGING BRACKET IS FIXED TO THE WALL IN A SECURE MANNER; FAILURE TO DO SO COULD RESULT IN DAMAGE OR INJURY SHOULD THE SPEAKER BECOME DETACHED IN USE. SEEK PROFESSIONAL ADVICE IF YOU ARE UNSURE WHICH WALL FIXING IS BEST SUITED TO YOUR PROPOSED MOUNTING LOCATION.

INSTALLATION

To avoid potential damage to your loudspeaker, ensure that the amplifier is switched OFF prior to connecting or disconnecting any cables. Before switching on double check that all connections are secure and that polarity is correct.

CONNECTION IN SINGLE WIRE MODE

The terminal panels in both Sensys Discrete and Dual Concentric™ models have captive link bars fitted as standard to link the positive and negative HF and LF terminals respectively. These must be removed to bi-wire the speakers - see section entitled Connection in Bi-wire mode. **(See figs. 3 & 7)**

For optimum performance in single wire mode, loudspeaker cable connections from the amplifier should be made to the high frequency (HF) terminals of the loudspeaker:

- The positive (plus) terminal on the amplifier left channel (marked + or coloured red) must be connected to the positive HF terminal on the left speaker. The left speaker is the one on the left as you look at the stereo pair from your listening position.
- The negative (minus) terminal on the amplifier left channel (marked - or coloured black) must be connected to the negative HF terminal on the left speaker.
- Repeat this connection process for the right speaker. Remember that the positive (+ or red) on the amplifier must be connected to the positive (+ or red) on the speaker and the negative (- or black) to negative.
- Select a signal source, such as a CD player; switch on the amplifier and slowly turn up the volume control to check that both loudspeakers are reproducing bass and treble information.

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CONNECTION IN BI-WIRE MODE

Please note in bi-wire mode that the link bars must be removed. Unscrew the knurled nuts on both the positive and negative HF and LF terminals and remove the link bar and then replace the colour-coded nuts, as they will be required to clamp the bi-wire cables in place. Retain the link bars in a safe place for possible future use.

- Be sure that the amplifier is switched OFF and then prepare the two sets of cabling for each 'side' of the system separately. Measure and cut four lengths of cable, two per speaker. Label two of the cable lengths Left LF and Left HF (low frequency and high frequency) then repeat this process for the right pair.
- If your amplifier is not equipped with separate output terminals for bass and treble information then, at the amplifier end of the cables, twist the Left LF+ (positive) and the Left HF+ (positive) together. Connect these to the amplifier Left channel positive terminal marked + (plus) or coloured red.

  Twist the Left LF- (negative) and the HF- (negative) cables together and connect them to the amplifier Left channel negative terminal marked - (minus) or coloured black. At the loudspeaker end connect the cables labelled Left LF+ and Left LF- to the left hand loudspeaker LF terminals, ensuring that you note the polarity markings on the cable sheathing.

  Then proceed to connect the Left HF+ and Left HF- to the HF terminals on the same loudspeaker.
- Repeat this process to connect the right hand loudspeaker to the amplifier right channel output, once again ensuring that polarity is correct throughout.
- Switch the amplifier on with the volume control set at its lowest setting. Select a favourite source and slowly turn up the volume to a low level. Check that bass and treble information is being reproduced from both speakers - if not, switch off the amplifier and recheck the connections. **(See fig. 4 & 8)**

BI-AMPING

Bi-Amping extends the principle of bi-wiring one stage further. In this connection option separate power amplifiers are used for bass and treble signals in each loudspeaker. Four mono (or two stereo) amplifiers of the same type are required for a stereo pair of loudspeakers. Ensure that the cable links between the loudspeaker terminals are removed and that correct polarity is maintained throughout.

If two stereo amplifiers are used, it is recommended that one amplifier supply bass information to left and right loudspeakers and the other, the treble information. **(See fig. 5 & 9)**

POSITIONING AND FINE-TUNING

To get best results from your new Tannoy Sensys loudspeakers it is worthwhile spending a little time finding the optimum set-up configuration.

Begin by angling the speakers towards your chosen listening position, usually this is on the centre line of the room, so that when seated you can just see the inner side panel of each speaker. The front of the loudspeaker should not be obstructed in any way. The loudspeakers should be located between 1.5 to 4.5 metres (5ft to 15ft) apart - with the listening position set slightly further away than the speakers are apart. Avoid positioning the loudspeakers in corners of the room, as this will have a negative effect on performance. Ideally, maintain a distance of at least 0.5 metres (20 inches) from the rear wall, and 1 metre (39 inches) from the side.

With the speaker in its listening position, rock the loudspeaker gently from side to side so that the spikes find their way through the weave of the carpet and on to the solid surface below. Once fine adjustments have been made to the spikes, to level the loudspeaker and ensure stability, tighten the lock nuts firmly but without using undue force. **(See fig. 10)**

BASS TUNING

These Sensys speakers have been designed for use in rooms with average to good acoustics without port damper bungs fitted. However, in smaller rooms where loudspeaker positioning is forced closer to rear or sidewalls, the foam port damper bung supplied in the accessory kit can be inserted into the reflex port. This will reduce the bass energy but 'speed-up' the sound presentation.

There is no absolute right or wrong here, therefore much will depend on your own musical preferences.

GRILLES

The Sensys grille has been designed to provide acoustic transparency. However, for ultimate fidelity the enthusiast will appreciate the slight improvement in clarity and detail that is achieved by removing the grilles during listening.

The mesh grille on the front of the pod mounted WideBand™ HF unit diaphragm, on the Dual Concentric™ models only, is held in place by magnetism and may easily, but carefully, removed.

It is essential that the WideBand™ tweeter and SuperTweeter™ diaphragms are not touched, any damage will destroy performance and require specialist repair by your Tannoy dealer. Any such damage will not be covered under warranty.

CARE OF CABINET

The cabinets should only be cleaned with a dry cloth or with a light application of quality non-silicone furniture polish.

SENSYS HOME THEATRE 5.1 - GENERAL INFORMATION

Unlike other forms of encoded surround audio, 5.1 offers full bandwidth capability for the surround and centre channels, with the ability to treat the subwoofer as a single discreet channel for special effects playback or, for music applications, as a dedicated low frequency instrument channel. This places new demands on the surround and centre channel loudspeakers in both the mixing environment and the playback environment.

The 5.1 format allows the mix engineer in the recording studio to assign audio information to one or more discreet channels of playback; providing very vivid and exacting localisation for the apparent sound sources in the listening environment. To reliably recreate that accurate localisation during playback, the selection and location of loudspeakers becomes the single most critical issue next to the talent of the mix engineer in the studio. **(See fig. 11)**

THE SYSTEM

A fully operational 5.1 system consists of two main front loudspeakers, two rear effects speakers at the rear (usually wall mounted) and a centre channel. The subwoofer provides the .1 part of the system.

Total design compatibility, ensuring all models share the same acoustical balance and dispersion characteristics, means that it is essential that an A/V system is built around either the Sensys Discrete or Dual Concentric™ models - it is not possible to mix the driver types as the acoustic integration of each has been optimised only for use as a complete system.

In Home Theatre applications this acoustic benefit provides a very focussed soundstage retaining natural voicing and ensuring that aural effects and speech localisation 'pan' from left to right and front to rear seamlessly.

SCREENING

The large magnet assemblies on the loudspeaker drive units of all Sensys models are fully screened to eliminate colour-fringing effects when mounted close to television monitors.

FRONT SPEAKERS

The ultra wide dynamic range and power handling capability of Sensys loudspeakers will provide a stunning home cinema experience. The speakers should be positioned on either side of the TV or projection screen and then placed in line with the screen surface.

CENTRE CHANNEL SPEAKER

The Sensys centre channel speaker is fully magnetically shielded and designed for installation directly above or below the TV. As the main effects speaker for the front soundstage, the critical factor in its performance is the placement. In all cases the centre channel speaker should be positioned as near to the TV screen as possible. The viewing position when seated determines the ideal mounting height, but in all cases this should be as close as possible to ear height. As with the main speakers the front baffle panel should be as near as possible in line with the screen surface.

The Sensys centre channel can be wired in single wire or bi-wire mode. Please refer to **figs. 3, 4, 7 & 8** for connection guidance bearing in mind that connection should be made to the dedicated centre channel output on your A/V processor amplifier.

REAR EFFECTS SPEAKERS

The integrity of the special effects soundstage created by the source material will be compromised if the speakers are installed on the sidewalls, for that reason they should always be placed behind the main viewing position.

The placement of floor standing speakers at the rear should mirror as near as possible the location of the front pair and 0.5 metres (20 inches) from the rear wall. Wall-mounted loudspeakers should be shelf or bracket mounted 1.5 to 4.5 metres (5ft to 15ft) apart with a height mounting height range of 1.5 to 2 metres (5ft to 7ft).

SUBWOOFER

As the subwoofer only produces low frequency, therefore monaural information, it is difficult to detect its location by ear. It could as a result be situated anywhere in the room, but optimum performance will be gained by locating the subwoofer between the main stereo pair of speakers. Bass output will increase when placed next to a wall or in a corner so use the subwoofer volume control to balance the output with the rest of the system. Please refer to the manual supplied with the subwoofer for advice on installation and set-up.

SET-UP DIAGRAMS

Fig 1: Unpacking

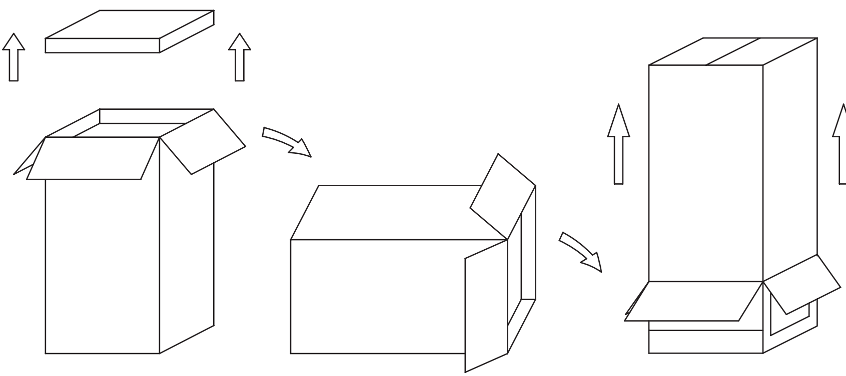


Fig 2: Terminal Panel

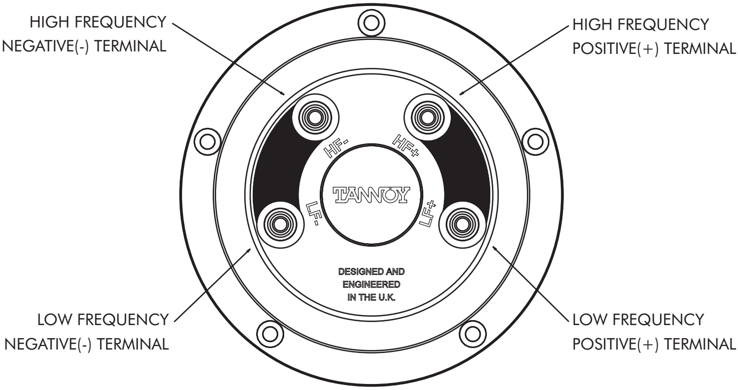


Fig 3: Single Wire Mode

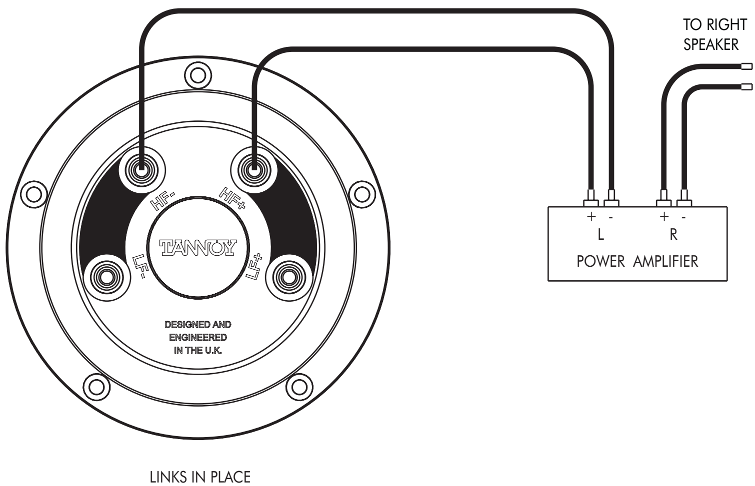


Fig 4: Bi-Wire Mode

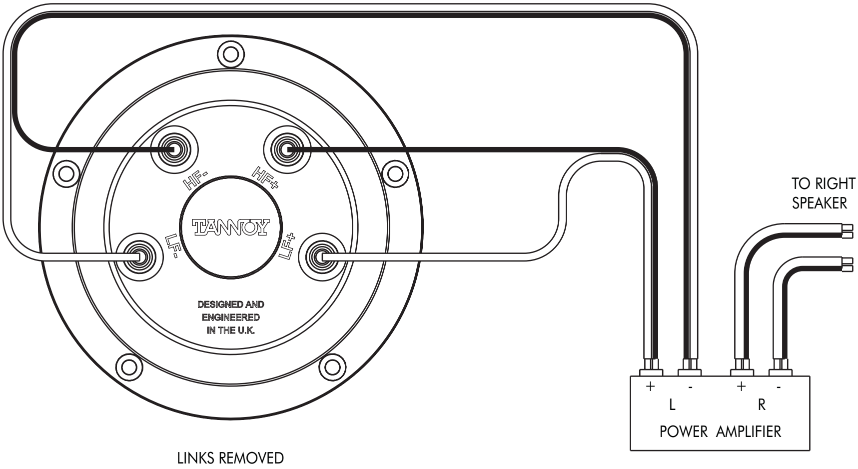


Fig 5: Bi-Amp Mode

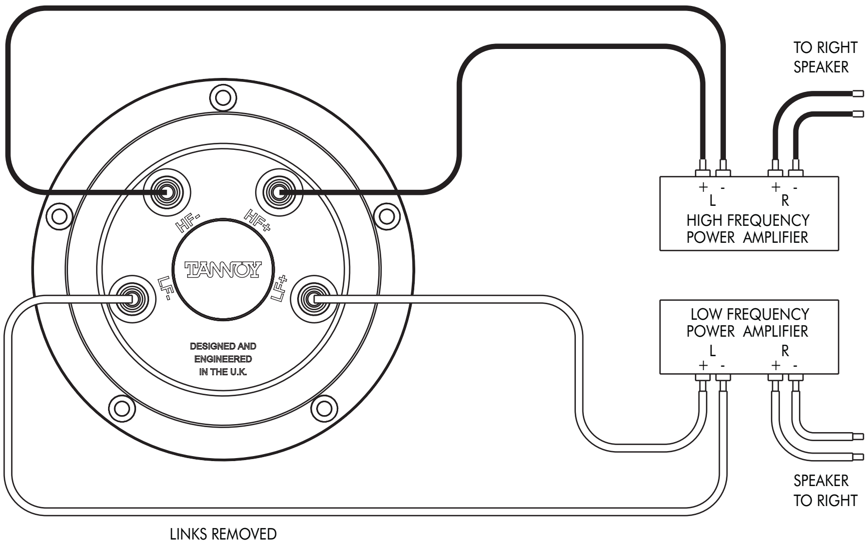


Fig 6: Terminal Panel - Sensys DC Models

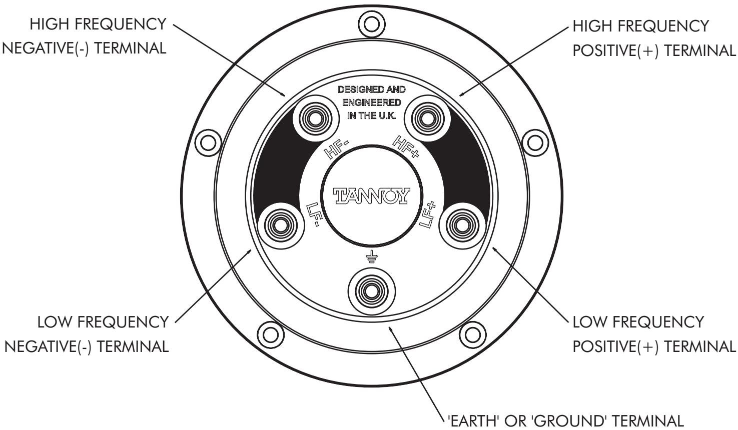
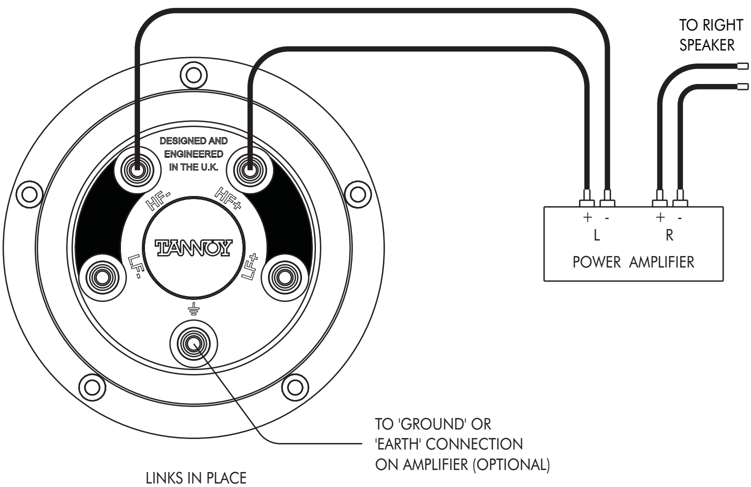


Fig 7: Single Wire Mode - Sensys DC Models



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Fig 8: Bi-Wire Mode - Sensys DC Models

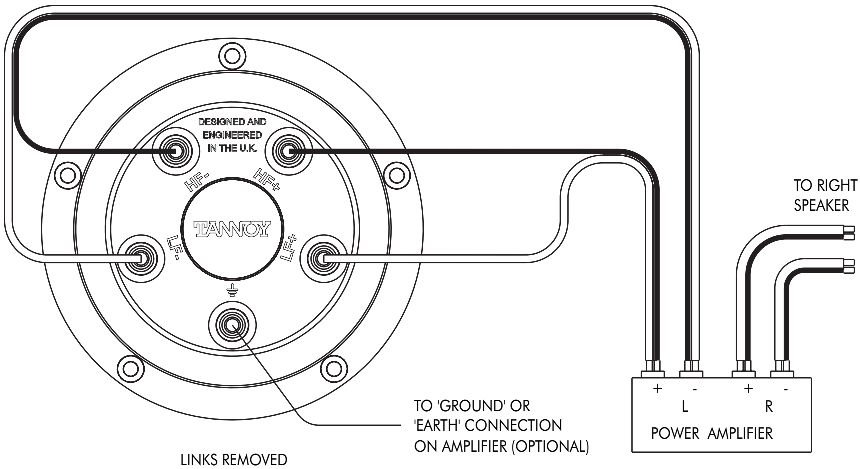


Fig 9: Bi-Amp Mode - Sensys DC Models

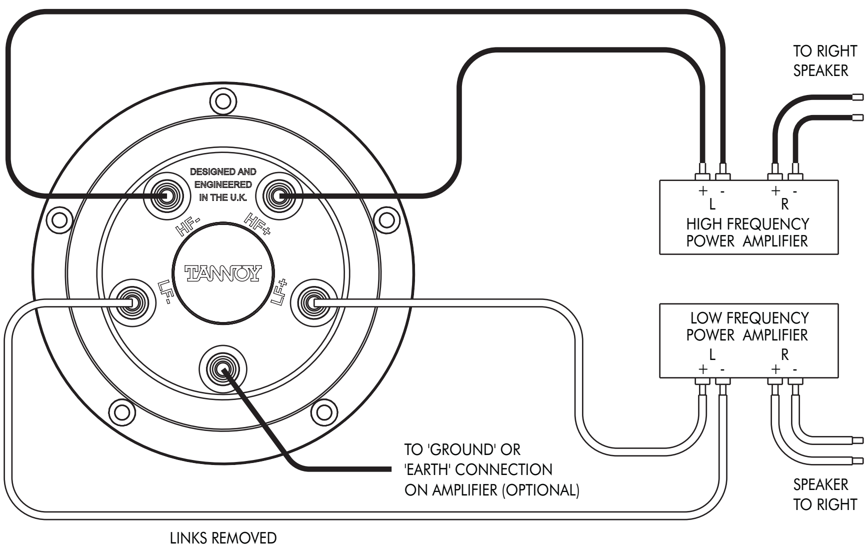


Fig 10: Recommended positioning - stereo pair

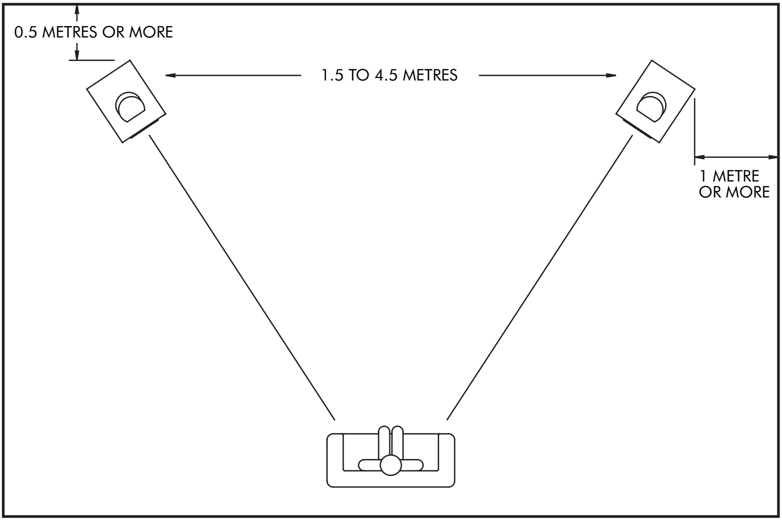


Fig 11: Recommended positioning - home cinema

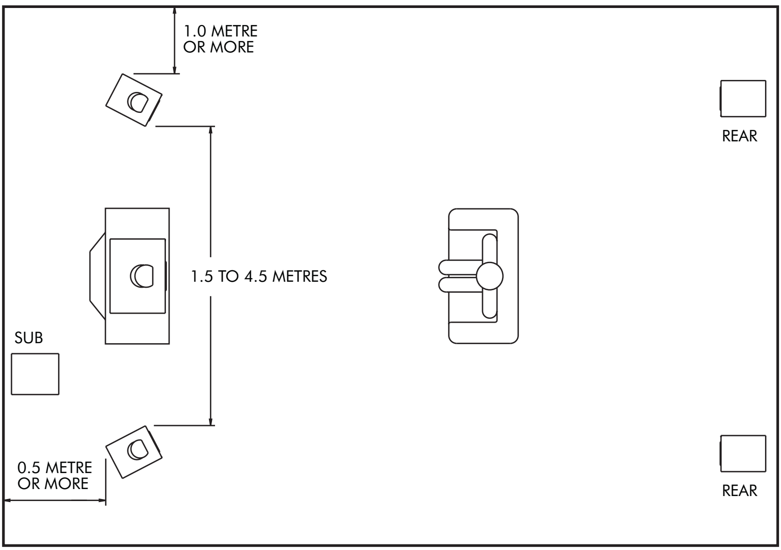


Fig 12: Tweeter fitting on Sensys DC models

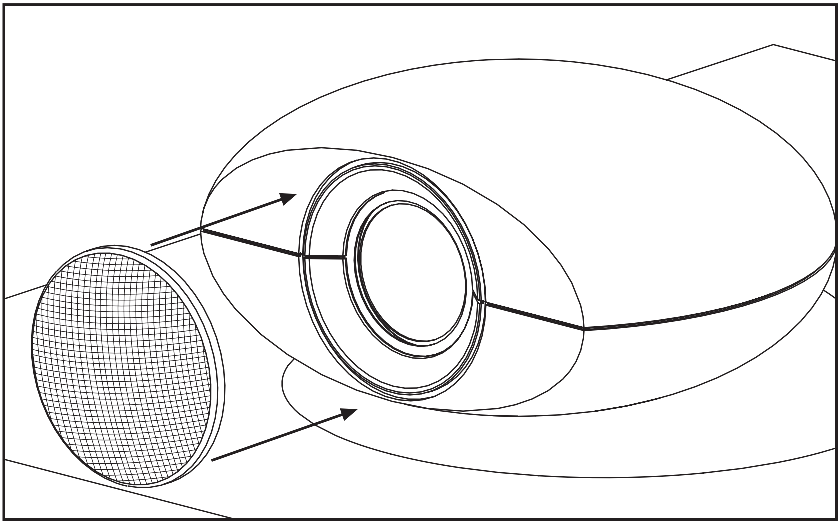
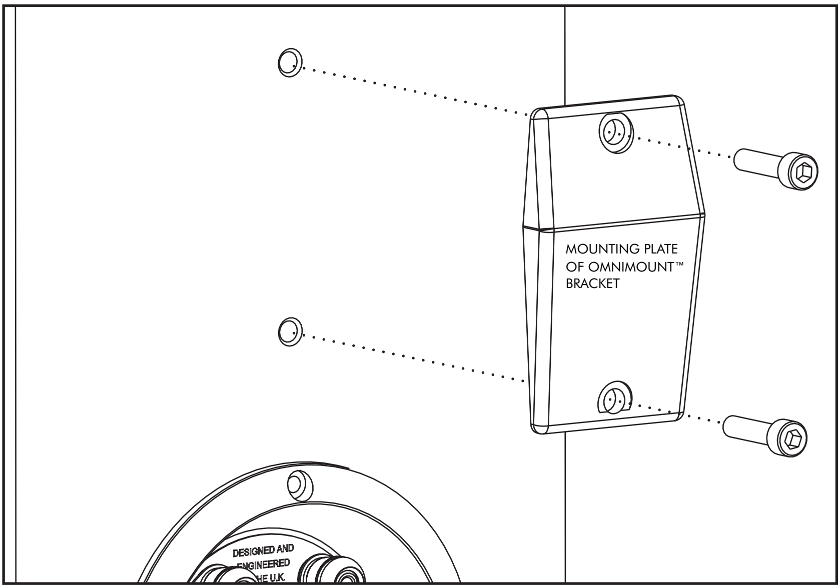


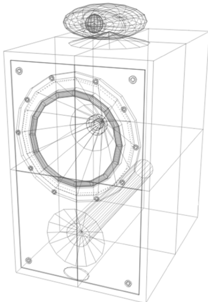
Fig 13: Location of threaded insert for Omnimount™ type wall brackets



TECHNICAL SPECIFICATIONS

SPECIFICATIONS	SENSYS 1	SENSYS 2	SENSYS C	SENSYS R
Recommended amplifier power- Watts RMS	20 - 100	20 - 150	20 - 125	20 - 100
Continuous power handling - Watts RMS	75	110	90	75
Peak power handling - Watts	225	325	275	225
Sensitivity (2.83Volts @ 1 mtr)	88dB	89dB	88dB	87dB
Nominal impedance - Ohms	8	8	8	8
Low Frequency Alignment (-6dB)	49Hz	39Hz	51Hz	58Hz
Frequency response - 6dB	49Hz - 51kHz	39Hz - 51kHz	51Hz - 51kHz	58Hz - 51kHz
DRIVE UNITS				
WideBand™ high frequency	25mm (1") 25-micron titanium dome, neodymium magnet system	25mm (1") 25-micron titanium dome, neodymium magnet system	25mm (1") 25-micron titanium dome, neodymium magnet system	25mm (1") 25-micron titanium dome, neodymium magnet system
Low frequency	175mm (7") Multi fibre paper pulp cone	2 x 175mm (7") Multi fibre paper pulp cone	2 x 175mm (7") Multi fibre paper pulp cone	1 x 165mm (6") Multi fibre paper pulp cone
Shielded	Yes	Yes	Yes	Yes
CROSSOVER				
Crossover frequency	2.7kHz	250Hz	2.8kHz 2.7kHz	2.7kHz
Crossover type	2nd order LF 3rd order HF	2nd order LF 3rd order HF 2nd order LLF	2nd order LF 3rd order HF	2nd order LF 3rd order HF
CABINET				
Enclosure type	Reflex	Reflex	Reflex	Closed box
Construction	15mm particle board, internally cross-braced enclosure 15mm front baffle	15mm particle board, internally cross-braced enclosure 15mm front baffle	15mm particle board, internally cross-braced enclosure 15mm front baffle	15mm particle board, internally cross-braced enclosure 15mm front baffle
Dimensions - inc grille mm (inches)	350 x 210 x 292 (13¾ x 8¼ x 11½)	910 x 210 x 293 (35 13/16 x 8¼ x 11)	210 x 350 x 284 (8¼ x 13¾ x 11 3/16)	280 x 187 x 170.5 (11 x 7 6/16 x 6 11/16)
Volume - litres	13	36	13	4.5
Weight kg (lbs)	7 (15.4)	15 (33.1)	9.5 (20.9)	4 (8.8)
Finish options	Maple	Maple	Maple	Maple

SPECIFICATIONS	SENSYS DC1	SENSYS DC2	SENSYS DCC
Recommended amplifier power - Watts RMS	20 - 150	20 - 175	20 - 150
Continuous power handling - Watts RMS	110	125	110
Peak power handling - Watts	325	375	325
Sensitivity (2.83Volts @ 1 mtr)	88dB	89dB	88dB
Nominal impedance - Ohms	8	8	8
Low Frequency Alignment (-6dB)	39Hz	34Hz	39Hz
Frequency response - 6dB	39Hz - 51kHz	34Hz - 51kHz	39Hz - 51kHz
DRIVE UNITS			
SuperTweeter™ high frequency	25mm (1") 25-micron titanium dome, neodymium magnet system	25mm (1") 25-micron titanium dome, neodymium magnet system	25mm (1") 25-micron titanium dome, neodymium magnet system
Dual Concentric™ high frequency	25mm (1") 25-micron titanium dome, neodymium magnet system	25mm (1") 25-micron titanium dome, neodymium magnet system	25mm (1") 25-micron titanium dome, neodymium magnet system
Dual Concentric™ low frequency	175mm (7")	1 x 175mm (7")	1 x 175mm (7")
Low frequency		1 x 175mm (7")	
Shielded	Yes	Yes	Yes
CROSSOVER			
Crossover frequency	1.8kHz 16kHz	250Hz 1.8kHz 16kHz	1.8kHz 16kHz
Crossover type	4th order LF 1st order band pass HF	4th order LF 1st order band pass HF 2nd order LLF	4th order LF 1st order band pass HF
CABINET			
Enclosure type	Reflex	Reflex	Reflex
Construction	15mm particle board, internally cross-braced enclosure 15mm front baffle	15mm particle board, internally cross-braced braced enclosure 15mm front baffle	15mm particle board, internally cross-braced braced enclosure 15mm front baffle
Dimensions - inc. grille/excl. pod mm (inches)	406 x 210 x 292 (16 x 8¼ x 11½)	966 x 210 x 293 (38 1/16 x 8¼ x 11 9/16)	266 x 350 x 284 (10½ x 13¾ x 11 3/16)
Volume - litres	13	36	13
Weight kg (lbs)	8.5 (18.7)	17 (37.5)	9.5 (20.9)
Finish options	Maple	Maple	Maple



TANNOY | SENSYS | DUAL CONCENTRIC | WIDEBAND TECHNOLOGY

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